

## ABSTRACT

An integrated circuit which includes at least one DC to DC converter for receiving a supply voltage level and producing at least one intermediate voltage level which is greater than the supply voltage level. The integrated circuit also includes processing

5 circuitry for receiving at least one time-varying input voltage signal and increasing a level of the time-varying voltage signal. The processing circuitry can include analog or digital circuitry or a combination of both analog and digital circuitry, and the time-varying input voltage signal can be an analog signal or a digital signal. The integrated voltage

10 boost power supply can output the increased time-varying voltage signal and a plurality of DC voltages.